

CLAIMS

1. A stent delivery system comprising:
 - a catheter;
 - a balloon operably attached to the catheter; and
 - a stent disposed on the balloon, the stent having a first region and a second region;
 - a first coating section, the first coating section disposed on the first region; and
 - a second coating section, the second coating section disposed on the second region;
 - wherein the first region and the second region are discrete.
2. The stent delivery system of claim 0 wherein the first coating section comprises a first polymer and the second coating section comprises a second polymer.
3. The stent delivery system of claim 0 wherein the first coating section includes a first therapeutic agent and the second coating section includes a second therapeutic agent.
4. The stent delivery system of claim 0 wherein the first coating section includes a therapeutic agent.
5. The stent delivery system of claim 0 wherein the first region and the second region form a pattern selected from the group consisting of ring patterns, striped patterns, spotted patterns, and dot matrix patterns.
6. A coated stent comprising:
 - a stent, the stent having a first region and a second region;
 - a first coating section, the first coating section disposed on the first region; and
 - a second coating section, the second coating section disposed on the second region;
 - wherein the first region and the second region are discrete.
7. The coated stent of claim 0 wherein the first coating section comprises a first polymer and the second coating section comprises a second polymer.

8. The coated stent of claim 0 wherein the first coating section includes a first therapeutic agent and the second coating section includes a second therapeutic agent
9. The coated stent of claim 0 wherein the first coating section includes a therapeutic agent.
10. The coated stent of claim 0 wherein the first region and the second region form a pattern selected from the group consisting of ring patterns, striped patterns, spotted patterns, and dot matrix patterns.
11. A method for producing a coated stent comprising:
providing a stent, the stent having a first region and a second region;
mixing a first polymer and first therapeutic agent with a first solvent to form a first polymer solution;
applying the first polymer solution to the first region to form a first coating section;
mixing a second polymer and second therapeutic agent with a second solvent to form a second polymer solution; and
applying the second polymer solution to the second region to form a second coating section.
12. The method of claim 0 wherein applying the first polymer solution and applying the second polymer solution further comprises applying the first polymer solution and applying the second polymer solution simultaneously.
13. The method of claim 0 further comprising curing the first polymer solution and curing the second polymer solution.
14. The method of claim 0 wherein applying the first polymer solution to the first region further comprises:
mounting the stent in a coating fixture; and

spraying the first polymer solution on the first region.

15. The method of claim 0 wherein the coating fixture is a computerized numerically controlled machine.

16. The method of claim 0 wherein spraying the first polymer solution on the first region further comprises spraying the first polymer solution by a spraying method selected from the group consisting of micro-spraying and inkjet spraying.

17. The method of claim 0 wherein applying the first polymer solution to the first region further comprises applying the first polymer solution by an application method selected from the group consisting of pad printing, inkjet printing, rolling, painting, spraying, micro-spraying, dipping, wiping, electrostatic deposition, vapor deposition, epitaxial growth, and combinations thereof.

18. A system for producing a coated stent comprising:
means for providing a stent, the stent having a first region and a second region;
means for mixing a first polymer and first therapeutic agent with a first solvent to form a first polymer solution;
means for applying the first polymer solution to the first region to form a first coating section; and
means for mixing a second polymer and second therapeutic agent with a second solvent to form a second polymer solution; and
means for applying the second polymer solution to the second region to form a second coating section.

19. The system of claim 0 wherein means for applying the first polymer solution and means for applying the second polymer solution further comprises means for applying the first polymer solution and the second polymer solution simultaneously.

20. The system of claim 0 further comprising means for curing the first polymer solution and means for curing the second polymer solution.
21. The system of claim 0 wherein means for applying the first polymer solution to the first region further comprises:
means for mounting the stent in a coating fixture; and
means for spraying the first polymer solution on the first region.
22. A coated stent comprising:
a stent, the stent having a discrete first region and a discrete second region;
a first polymer including a first therapeutic agent, the first polymer disposed on the discrete first region; and
a second polymer including a second therapeutic agent, the second polymer disposed on the discrete second region.
23. The coated stent of claim 22 wherein the discrete first region and the discrete second region are separated by a bare section.
24. The coated stent of claim 23 wherein the bare section extending between the discrete first region and the discrete second region for a distance of approximately 1 millimeter (0.03937 inches)
25. The coated stent of claim 24 wherein the bare section extending between the discrete first region and the discrete second region for a distance of approximately 0.025 millimeter (0.00098 inches).